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UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Research Service  
Animal Disease and Parasite Research Division

SORE HOCKS IN DOMESTIC RABBITS<sup>1/</sup>

U. S. DEPT. OF AGRICULTURE

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CURRENT SERIAL RECORDS

### INTRODUCTION

Sore hocks, the infected or ulcerated areas on the undersurface of the hindfeet of the rabbit, or on the pads and toes of the forefeet, refers to a condition responsible for considerable financial loss to the breeder. These tender, painful areas cause the animal to lose weight and prevent the does from properly nursing their young. The usefulness of herd bucks and the period of productiveness for breeding does is shortened as a result of this ailment. Approximately 10 percent of mature-doe replacement is the result of culling because of sore hocks. It is a condition that has developed with the domestic rabbit. In their natural environment, cottontails, jackrabbits, hares, and snowshoe rabbits do not develop sore hocks. Wild rabbits will, however, develop sore hocks after capture when kept on hardware-cloth floors.

### HEREDITARY FACTORS AND SORE HOCKS

Sore hocks were found not to be inherited in 11 inbred litters studied for 5 generations. The litters included some breeds known to be long coat carriers in order that the heavy pad factor might be observed also. The nervous temperament of the animal and the density and the length of fur on the foot pads were found to be predisposing factors if hutch floors were not kept clean and dry.

The more nervous animals were easily excited and did more stamping with their hindfeet. The hock area became bruised and was increasingly susceptible to infection with the resulting sores.

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<sup>1/</sup>This supersedes A.H.D. 83 publication dated January 1947, issued formerly by the Bureau of Animal Industry, U. S. Department of Agriculture.

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Foot size in relation to total body weight was also suspected to be a factor in sore hocks. Among the breeds with marked differences in weight, differences in the incidence of sore hocks have been noted; for example, the Flemish breed in general has more sore hocks than the Polish breed. Although it is true that the smaller breeds (such as Polish, Dutch, Angora) are least susceptible, the incidence increases for a mature animal of these breeds, or for one of any breed, as the weight increases. The pounds of live weight supported per square inch of foot surface are shown in the following table. The data suggest a relationship between the amount of live weight supported by a given amount of foot surface and the incidence of sore hocks.

Live weight supported per square inch of foot surface of all 4 feet by 7 breeds of rabbit:

<u>Breeds</u> <u>(Bucks-does)</u>	<u>Number of</u> <u>rabbits</u>	<u>Average</u> <u>live</u> <u>weight</u>	<u>Average area</u> <u>of foot</u> <u>surface</u>	<u>Average weight</u> <u>supported by</u> <u>square inch surface</u>
		<u>Pound</u>	<u>Square</u> <u>inches</u>	<u>Pound</u>
Polish	12	2.95	6.75	0.445
Dutch	9	5.25	8.93	.588
Angora	10	6.70	10.83	.595
Belgian	8	8.00	13.53	.595
New Zealand	25	10.55	15.76	.671
Flemish	13	15.00	22.19	.684
Champagne	9	8.90	12.76	.698

A study of the foot-surface tracings of the 86 animals showed the ratio of the forefoot to the hindfoot surface to be 1:3 and the distribution of the live weight between forefoot and hindfeet to be in a similar ratio. Sore hocks usually appear on the hindfeet. As the sore areas increase, the animal changes its posture, which throws more weight on the forefeet in its attempt to relieve the pressure on the hindfeet. When this shift in weight occurs, the forefeet become involved and sore areas develop on the pads and between the toes.

Because an increasing weight of a particular animal is a factor predisposing to sore hocks, the breeder should use precaution in developing his breeding stock so that the animals will not become overweight or develop too rapidly, nor maintain excessive weight over an extended period.



## ENVIRONMENTAL FACTORS AND SORE HOCKS

The 5/8-inch-mesh, 17-gage, galvanized hardware cloth used for hutch floors has a supporting area of 20 percent. Pressed steel flooring perforated with holes 5/8 inch square, 7/8 inch on center, has a sufficiently smooth supporting surface of 49 percent. The 1/4-inch-wide projection that surrounds the 5/8-inch-square hole is a disadvantage when the floors are wet. (In the inbred litters, 75 percent of the animals that were maintained on this steel flooring developed sore hocks.) The moisture that is retained on the floor after washing and the animals' urine keep the foot pads moist. These moist areas become matted, tender, and susceptible to bruising; finally they become infected.

## PREVENTION

The wild rabbit living on natural solid floors of sod and soil does not develop sore hocks. For the hutch-raised rabbit, the nearest approach to this environment is a solid floor that is kept clean and dry. This involves too much labor for the commercial grower, so he must make a compromise between an excess of work and having too many cases of sore hocks. If the hutch floor can be kept clean and dry, these cases should be at a minimum. The dense, long fur on the foot pads serves as a protection and renders the foot less liable to sore hocks provided the fur is kept clean and dry.

Selection of breeding stock should be based on the temperament of the rabbits. Nervous, overactive, stamping animals are prone to developing sore hocks. The animals should be protected from natural enemies, such as cats, strange dogs, opossums, and rats. These disturbances are most likely to occur at night.

Do not use feeding methods that develop breeding stock too rapidly or cause the animal to put on excessive weight. Do not allow animals to remain overweight over an extended period of time.

## TREATMENT

Sore hocks will respond better to treatment if the animals are fed a properly balanced diet and are made comfortable. Do not breed the does until the affected areas are healed over.

If solid floors are used, keep the floors clean and dry. On wire floors, a lath platform should be placed in the hutch so that the animal can rest without the irritated areas coming in contact with the flooring. Healing will take place more rapidly if the animal is confined in a pen placed on well-drained soil.

When sore hocks are not abscessed, clean the sore areas and treat with zinc ointment. If the lesions are abscessed, drain them and paint with any suitable skin antiseptic. This procedure must be repeated each day as long as the areas remain infected. As healing progresses, the lesions can be treated with a zinc ointment. In the more serious cases, especially when all four feet are involved, it is advisable to destroy the animal unless it represents a valuable bloodline. Although such lesions heal in due time, there is a tendency for these hock areas to break down again when the animal is put back into production.



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